

IN THE CLAIMS

Amend Claims 1, 6, 7, 12, 13, 17 - 21, 31, 35, and 39, cancel Claims 22 - 24, and add new Claim 61 so that the claims are as follows.

1. (Currently amended) A structure comprising:

an electron-emitting device which comprises a backplate and an array of laterally separated electron-emissive regions situated over the backplate, each electron-emissive region comprising at least one electron-emissive element;

a light-emitting device coupled to the electron-emitting device to form a hermetically sealed enclosure through which electrons emitted by the electron-emissive regions pass to strike the light-emitting device and cause it to emit light that produces an image; and

inert gas located in open space of the sealed enclosure, the inert gas consisting of at least one of (a) helium at a partial pressure of at least 2×10^{-5} torr and (b) argon at a partial pressure of at least 3×10^{-5} torr, and (c) at least one of neon, krypton, xenon, and radon at a partial pressure of at least 5×10^{-7} torr.

2. (Original) A structure as in Claim 1 wherein the structure is a flat-panel display.

3. (Previously presented) A structure as in Claim 1 wherein the light-emitting device comprises:

a faceplate; and

an array of laterally separated light-emissive regions situated over the faceplate, each light-emissive region situated opposite a corresponding different one of the electron-emissive regions.

4. (Previously presented) A structure as in Claim 1 wherein the electron-emissive regions emit electrons according to field emission.

5. (Original) A structure as in Claim 1 wherein the inert gas comprises at least one of (a) neon at a partial pressure of at least 1×10^{-5} torr and (b) krypton at a partial pressure of at least 1×10^{-6} torr.

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6. (Currently amended) A structure as in Claim 1 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 5×10^{-5} torr, (b) neon at a partial pressure of at least 2×10^{-5} torr, (c) ~~argon at a partial pressure of at least 4×10^{-5} torr, (d)~~ krypton at a partial pressure of at least 2×10^{-6} torr, and (d) (e) at least one of xenon and radon at a partial pressure of at least 1×10^{-6} torr.

7. (Currently amended) A structure as in Claim 1 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 1×10^{-4} torr, (b) ~~at least one of~~ neon and ~~argon~~ at a partial pressure of at least 5×10^{-5} torr, (c) krypton at a partial pressure of at least 5×10^{-6} torr, and (d) at least one of xenon and radon at a partial pressure of at least 2×10^{-6} torr.

8. (Original) A structure as in Claim 1 further including a getter for collecting non-inert contaminant material present in the sealed enclosure.

9. (Previously presented) A structure as in Claim 8 wherein the electron-emitting device has an active electron-emitting portion across which electrons are emitted from the electron-emissive regions, the getter being distributed across the active electron-emitting portion.

10. (Previously presented) A structure as in Claim 1 further including a reservoir for supplying further inert gas to the open space of the sealed enclosure.

11. (Original) A structure as in Claim 1 wherein the inert gas is at a partial pressure of no more than 1×10^{-1} torr.

12. (Currently amended) A structure as in Claim 1 wherein the inert gas comprises at least one of (a) helium at a partial pressure of no more than 1×10^{-1} torr, (b) neon at a partial pressure of no more than 5×10^{-2} torr, (c) ~~argon at a partial pressure of no more than 1×10^{-2} torr, (d)~~ krypton at a partial pressure of no more than 5×10^{-3} torr, and (d) (e) xenon or radon at a partial pressure of no more than 1×10^{-3} torr.

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13. (Currently amended) A structure comprising:
an electron-emitting device which comprises a backplate and an array of laterally separated electron-emissive regions situated over the backplate, each electron-emissive region comprising at least one electron-emissive element;
a light-emitting device coupled to the electron-emitting device to form a hermetically sealed enclosure through which electrons emitted by the electron-emissive regions pass to strike the light-emitting device and cause it to emit light that produces an image;
inert gas located in open space of the sealed enclosure at a partial pressure of at least 5×10^{-7} torr; and
~~a container that encloses inert gas, the container having a wall through which further inert gas passes from the container to the open space of the sealed enclosure reservoir for supplying further inert gas to the open space of the sealed enclosure.~~

14. (Original) A structure as in Claim 13 wherein the structure is a flat-panel display.

15. (Previously presented) A structure as in Claim 13 wherein the light-emitting device comprises:
a faceplate; and
an array of laterally separated light-emissive regions situated over the faceplate, each light-emissive region situated opposite a corresponding different one of the electron-emissive regions.

16. (Original) A structure as in Claim 13 wherein the electron-emissive regions emit electrons according to field emission.

17. (Currently amended) A structure as in Claim 13 wherein the ~~container is situated in reservoir comprises a container that encloses inert gas, the container having a wall through which inert gas passes from the container to the open space of the sealed enclosure.~~

18. (Currently amended) A structure as in Claim 13 or 17 wherein the wall is gas permeable.

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19. (Currently amended) A structure as in Claim 13-17 wherein at least part of the inert gas in the container is in gaseous form.

20. (Currently amended) A structure as in Claim 13-17 wherein at least part of the inert gas in the container is in inert-gas compound form.

21. (Currently amended) A structure as in Claim 13-17 wherein at least part of the inert gas in the container is present in inert-gas absorbent-material form.

22 - 24. (Canceled)

25. (Original) A structure as in Claim 13 further including a getter for collecting non-inert contaminant material present in the sealed enclosure.

26. (Previously presented) A structure as in Claim 25 wherein the electron-emitting device has an active electron-emitting portion across which electrons are emitted from the electron-emissive regions, the getter being distributed across the active electron-emitting portion.

27. (Original) A structure as in Claim 13 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 2×10^{-5} torr, (b) at least one of neon and argon at a partial pressure of at least 1×10^{-5} torr, (c) krypton at a partial pressure of at least 1×10^{-6} torr, and (d) at least one of xenon and radon at a partial pressure of at least 5×10^{-7} torr.

28. (Original) A structure as in Claim 13 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 5×10^{-5} torr, (b) at least one of neon and argon at a partial pressure of at least 2×10^{-5} torr, (c) krypton at a partial pressure of at least 2×10^{-6} torr, and (d) at least one of xenon and radon at a partial pressure of at least 1×10^{-6} torr.

29. (Original) A structure as in Claim 13 wherein the inert gas is at a partial pressure of no more than 1×10^{-1} torr.

30. (Original) A structure as in Claim 13 wherein the inert gas comprises at least one of (a) helium at a partial pressure of no more than 1×10^{-1} torr, (b) neon at a partial

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pressure of no more than 5×10^{-2} torr, (c) argon at a partial pressure of no more than 1×10^{-2} torr, (d) krypton at a partial pressure of no more than 5×10^{-3} torr, and (e) xenon or radon at a partial pressure of no more than 1×10^{-3} torr.

31. (Currently amended) A method of cleaning a structure comprising an electron-emitting device and a light-emitting device coupled to the electron-emitting device to form a hermetically sealed enclosure through which electrons emitted by an array of laterally separated electron-emissive regions of the electron-emitting device pass to strike the light-emitting device and cause it to emit light that produces an image, open space of the sealed enclosure containing inert gas consisting of at least one of (a) helium at a partial pressure of at least 2×10^{-5} torr and (b) ~~torr, (b)~~ argon at a partial pressure of at least 3×10^{-5} torr, and (e) at least one of neon, krypton, xenon, and radon at a partial pressure of at least 5×10^{-7} torr, the method comprising operating the electron-emitting device so that part of the electrons emitted by the electron-emissive regions collide with atoms of the inert gas to produce inert-gas ions which bombard contaminant material situated over the electron-emitting device in the sealed enclosure and cause at least part of the contaminant material to be dislodged from the electron-emitting device.

32. (Original) A method as in Claim 31 wherein the structure is a flat-panel display.

33. (Previously presented) A method as in Claim 31 wherein the electron-emissive regions are situated over a backplate of the electron-emitting device, each electron-emissive region comprising at least one electron-emissive element, the contaminant material attacked by the inert-gas ions comprising contaminant material situated over the electron-emissive elements.

34. (Original) A method as in Claim 31 wherein the inert gas comprises at least one of (a) neon at a partial pressure of at least 1×10^{-5} torr and (b) krypton at a partial pressure of at least 1×10^{-6} torr.

35. (Currently amended) A method as in Claim 31 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 5×10^{-5} torr, (b) neon at a

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partial pressure of at least 2×10^{-5} torr, (c) ~~argon at a partial pressure of at least 4×10^{-5} torr, (d)~~ krypton at a partial pressure of at least 2×10^{-6} torr, and (d) (e) at least one of xenon and radon at a partial pressure of at least 1×10^{-6} torr.

36. (Original) A method as in Claim 31 further including collecting non-inert material, including particles of the dislodged contaminant material, present in the sealed enclosure.

37. (Previously presented) A method as in Claim 31 further including supplying the open space of the sealed enclosure with further inert gas.

38. (Original) A method as in Claim 37 further including collecting non-inert material, including particles of the dislodged contaminant material, present in the sealed enclosure.

39. (Currently amended) A method of cleaning a structure comprising an electron-emitting device and a light-emitting device coupled to the electron-emitting device to form a hermetically sealed enclosure through which electrons emitted by an array of laterally separated electron-emissive regions of the electron-emitting device pass to strike the light-emitting device and cause it to emit light that produces an image, open space of the sealed enclosure containing inert gas at a partial pressure of at least 5×10^{-7} torr, the method comprising:

operating the electron-emitting device so that part of the electrons emitted by the electron-emissive regions collide with atoms of the inert gas to produce inert-gas ions which bombard contaminant material situated over the electron-emitting device in the sealed enclosure and cause at least part of the contaminant material to be dislodged from the electron-emitting device; and

supplying the open space of the sealed enclosure with further inert gas from a container having a wall through which the further inert gas passes from the container to the open space of the sealed enclosure.

40. (Original) A method as in Claim 39 wherein the structure is a flat-panel display.

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41. (Previously presented) A method as in Claim 39 wherein the electron-emissive regions are situated over a backplate of the electron-emitting device, each electron-emissive region comprising at least one electron-emissive element, the contaminant material bombarded by the inert-gas ions comprising contaminant material situated over the electron-emissive elements.

42. (Original) A method as in Claim 39 further including collecting non-inert material, including particles of the dislodged contaminant material, present in the sealed enclosure.

43. (Previously presented) A method as in Claim 39 wherein the further inert gas supplied to the open space of the sealed enclosure compensates at least partially for inert-gas ions that lodge in the electron-emitting device.

44. (Original) A method as in Claim 43 further including collecting non-inert material, including particles of the dislodged contaminant material, present in the sealed enclosure.

45. (Original) A method as in Claim 39 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 2×10^{-5} torr, (b) at least one of neon and argon at a partial pressure of at least 1×10^{-5} torr, (c) krypton at a partial pressure of at least 1×10^{-6} torr, and (d) at least one of xenon and radon at a partial pressure of at least 5×10^{-7} torr.

46. (Original) A method as in Claim 39 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 5×10^{-5} torr, (b) at least one of neon and argon at a partial pressure of at least 2×10^{-5} torr, (c) krypton at a partial pressure of at least 2×10^{-6} torr, and (d) at least one of xenon and radon at a partial pressure of at least 1×10^{-6} torr.

47. (Previously presented) A method as in Claim 31 wherein the light-emitting device comprises:
a faceplate; and

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an array of laterally separated light-emissive regions situated over the faceplate, each light-emissive region situated opposite a corresponding different one of the electron-emissive regions.

48. (Previously presented) A method as in Claim 39 wherein the light-emitting device comprises:

a faceplate; and

an array of laterally separated light-emissive regions situated over the faceplate, each light-emissive region situated opposite a corresponding different one of the electron-emissive regions.

49. (Previously presented) A structure comprising:

an electron-emitting device;

a light-emitting device coupled to the electron-emitting device to form a hermetically sealed enclosure through which electrons emitted by the electron-emitting device pass to strike the light-emitting device and cause it to emit light that produces an image;

inert gas located in open space of the sealed enclosure at a partial pressure of at least 5×10^{-7} torr; and

a container that encloses inert gas, the container having a wall through which inert gas passes from the container to the open space of the sealed enclosure.

50. (Previously presented) A structure as in Claim 49 wherein the structure is a flat-panel display.

51. (Previously presented) A structure as in Claim 49 wherein the wall is gas permeable.

52. (Previously presented) A structure as in Claim 49 wherein at least part of the inert gas in the container is in gaseous form.

53. (Previously presented) A structure as in Claim 49 wherein at least part of the inert gas in the container is in inert-gas compound form.

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54. (Previously presented) A structure as in Claim 49 wherein at least part of the inert gas in the container is present in inert-gas absorbent-material form.

55. (Previously presented) A structure as in Claim 49 further including a getter for collecting non-inert contaminant material present in the sealed enclosure.

56. (Previously presented) A structure as in Claim 55 wherein the electron-emitting device has an active electron-emitting portion across which electrons are emitted from the electron-emitting device, the getter being distributed across the active electron-emitting portion.

57. (Previously presented) A structure as in Claim 49 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 2×10^{-5} torr, (b) at least one of neon and argon at a partial pressure of at least 1×10^{-5} torr, (c) krypton at a partial pressure of at least 1×10^{-6} torr, and (d) at least one of xenon and radon at a partial pressure of at least 5×10^{-7} torr.

58. (Previously presented) A structure as in Claim 49 wherein the inert gas comprises at least one of (a) helium at a partial pressure of at least 5×10^{-5} torr, (b) at least one of neon and argon at a partial pressure of at least 2×10^{-5} torr, (c) krypton at a partial pressure of at least 2×10^{-6} torr, and (d) at least one of xenon and radon at a partial pressure of at least 1×10^{-6} torr.

59. (Previously presented) A structure as in Claim 49 wherein the inert gas is at a partial pressure of no more than 1×10^{-1} torr.

60. (Previously presented) A structure as in Claim 49 wherein the inert gas comprises at least one of (a) helium at a partial pressure of no more than 1×10^{-1} torr, (b) neon at a partial pressure of no more than 5×10^{-2} torr, (c) argon at a partial pressure of no more than 1×10^{-2} torr, (d) krypton at a partial pressure of no more than 5×10^{-3} torr, and (e) xenon or radon at a partial pressure of no more than 1×10^{-3} torr.

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61. (New) A structure comprising:

an electron-emitting device which comprises a backplate and an array of laterally separated electron-emissive regions situated over the backplate, each electron-emissive region comprising at least one electron-emissive element;

a light-emitting device coupled to the electron-emitting device to form a hermetically sealed enclosure through which electrons emitted by the electron-emissive regions pass to strike the light-emitting device and cause it to emit light that produces an image;

inert gas located in open space of the sealed enclosure at a partial pressure of at least 5×10^{-7} torr; and

a reservoir for supplying further inert gas to the open space of the sealed enclosure,
the reservoir comprising at least one piece of inert-gas compound material.

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